

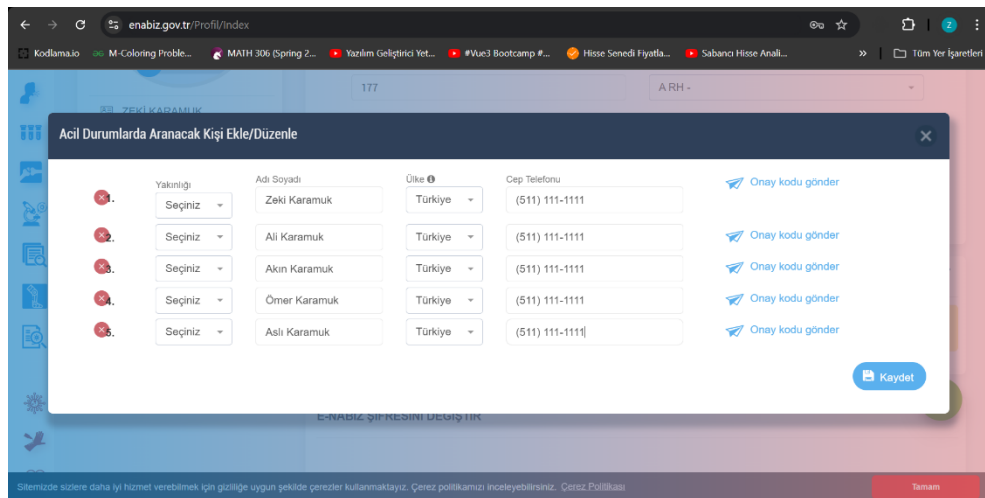
Fitts Law Report

Zeki Karamuk, 22496

1. Introduction

In this report, I will analyze the e-nabiz website which is supported by Turkish government and mostly used by turkish citizens to track their health activities. In this web application people can track their health results, hospital appointments, radiological images. Also people can arrange their profile and set a list of people who can be called in case of emergency situations. I will specifacally focus on the interactive screen that user submits the emergency call list. User's main goal is to submit an emergency call list which includes name, surname, country, relationship, phone number fields. In e-nabiz screen this process seems very basic and easy task to complete but there is a vital design and HCI problem that contradicts the Fitts Laws and negatively affects the usability and efficiency of the user interaction.

The current interface allows users to fill out the emergency call list form and after filling out this form user has to select the “kaydet” button to save the list. But there is a vital design problem arises because of the position of the “Kaydet” button in the emergency call list screen. As you can see in the figure 1, button is far away from the form elements which is a main problem for Fitts Laws. According to Fitts' Laws, the time it takes to move to and click a target is influenced by both the distance to the target and the size of the target. (Yablonski, 2020). In our case, as you can see in the figure 1, there is a long distance between the last input field (phone number) and the “kaydet” button which creates usability issue and leads to increase the movement time and decrease the task efficiency (Lee and Koubek,2010). Because of the this long distance between the button and form fields, user spends unnecessary times on this screen and this experience can be frustrating for the user and affects user experience negatively.



Yakınlığı	Adı Soyadı	Ülke	Cep Telefonu	Onay kodu gönder
Seğiniz	Zeki Karamuk	Türkiye	(511) 111-1111	Onay kodu gönder
Seğiniz	Ali Karamuk	Türkiye	(511) 111-1111	Onay kodu gönder
Seğiniz	Akın Karamuk	Türkiye	(511) 111-1111	Onay kodu gönder
Seğiniz	Ömer Karamuk	Türkiye	(511) 111-1111	Onay kodu gönder
Seğiniz	Aslı Karamuk	Türkiye	(511) 111-1111	Onay kodu gönder

Kaydet

Figure 1: Emergency Call List Screen

2. Analysis with Fitts' Law

Basically, Fitts law say that time to acquire a target is a function of the size of the target and the distance to the target. By applying fitts law function, designers can calculate the interaction time of the user with the system. To calculate the movement time function designers generally focus on the index of difficulty function which is expressed as $ID = \log_2(2D/W)$, where D represent the distance to the target and W represents the width of the target. By calculating Index of diffucilty function designers can estimate the time it will take for users to interact and navigate withing the application. If we analyze the index of difficulty function, we can see that when the distance to target is decreased or when the weight of the target is increased Index of diffucilty function will decrease which satisfies and creates a better design. The index of difficulty function represents how hard for the user to perform its action. When the designer wants to opitmize the user interface and minimize the amount of interaction time of the user, designer should choose a design which has lower index of difficulty. If the index of difficulty is high designer can conclude that the design has some problems related with Fitts Law and this can cause user frustration and unefficiency.

So By using Fitts laws, we can calculate the index of diffucilty for e-nabiz web application and determine if it is a good design or can be developed more. In our web application user firstly fills out the form inputs such as name, surname and phone number. And than user clicks the kaydet button to submit the form. So in our case the form fields are our sources and the target is kaydet button. By utilizing the index of difficulty function we can calculate the time it takes for the user to move from form input to kaydet button. By this way we can think of better design to decrease this time function.

Index Of Diffuculty Function (ID) = $\log_2(2D/W)$

For our case:

D= 400 pixel, W= 150 pixel

ID = $\log_2(2*400/150) = \log_2(5.33) = 2.414$

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Kaydet

Figure 2: Depiction of Fitts Law Metrics

3. Proposed Solution

As can be seen in the part 2, the index of difficulty function resulted as 2.414 which is high and shows problematic design. To build more user friendly, interactive and efficient application we have to optimize the moving time for the user. To optimize the move time of the user we can utilize Fitts Laws. To decrease the cost function we can increase the width of the submit button or we can decrease the distance between the form inputs and submit button. We can also increase the width of the submit button and decrease the distance to target at the same time which is the best case for our scenerio. Additionally, the importance of designing interfaces where essential functions, such as submit buttons, are placed close to the input fields is crucial to streamline user interaction and enhance task efficiency (Leavitt et al., 2006). By decreasing the distance to target and increasing the width of the target, we could satisfy the Fitts Laws and this will be resulted with the user satisfaction and positive user experince.

4. References

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